Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A new method for determining the in-situ Slow-wave or Drag-wave velocity, both these waves representing the same phenomenon, of permeable reservoir rock formations which are continuous between two wellbores, and from that determination, using the existing known mathematical relationship to calculate the bulk tortuosity of the interconnected pores of reservoir rock, and estimating the bulk permeability of a reservoir formation between seismic transmitters and seismic receivers, the method comprising: ~~such method comprising 1-5 below :~~

Transmit a mono-frequency signal generated by a seismic transmitter or seismic transmitters in a wellbore and received by a seismic receiver or seismic receivers in another or the same wellbore, spectrally analyzing said received signals, determining the presence of the Drag Wave by determining the presence of the frequency side lobes of the Primary seismic wave, of a selected discrete frequency, the frequency side lobes in the said spectrum of the received signals being created by the nonlinear elastic interaction of the Primary mono-frequency seismic wave with the

Drag Wave, the Drag Wave being generated through solid/liquid coupling as the Primary Compressional Wave propagates through a permeable reservoir formation between two wells, and the said formation has fluid-filled interconnected pores.

Claim 2 (previously presented): The method of Claim 1 further comprising analyzing the spectral content of the received signal.

Claim 3 (previously presented): The method of Claim 2 further comprising identifying the side lobes of the mono-frequency signal that was transmitted.

Claim 4 (previously presented): The method of Claim 3, wherein the frequency of the side lobes represents (F - Fdrag) and (F + Fdrag), where F is the mono-frequency and Fdrag is the frequency of the 'Drag Wave'; these side lobes are generated due to the elastic nonlinear interaction between the mono-frequency wave traveling through the rock matrix and the 'Drag Wave' being generated due to the coupling between the matrix and pore fluids.

Claim 5 (previously presented): The method of Claim 4, further comprising the velocity of the 'Drag Wave' Vdrag by using the Doppler

Effect in which Fdrag/F = Vdrag/(V – Vdrag); where Fdrag is the frequency of the 'Drag Wave', F is the mono-frequency, Vdrag is the velocity of the 'Drag Wave' and V is the velocity of the mono-frequency signal.

Claim 6 (canceled)

Claim 7 (canceled)

Claim 8 (previously presented): The method of any one of claims 1-5 specifically used to determine in-situ bulk tortuosity of the interconnected pores of reservoir rock, and estimating the bulk permeability of a reservoir formation connected between two wells.

Claim 9 (previously presented): The method of any one of claims 1-5 specifically used to determine in-situ bulk tortuosity of the interconnected pores of reservoir rock, and estimating the bulk permeability of a reservoir formation in a well between two depth points in that well.